

Neither “Creatures of the State” nor “Accidents of Geography”
The Consolidation of American Public School Districts in the Twentieth Century

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Abstract: American public school districts numbered more than 200,000 in 1910. By 1970 there were fewer than 20,000. The decline was almost entirely accounted for by the consolidation of one-room, rural schools, into larger school districts. Education leaders had long urged districts to consolidate, but local residents voted to do so, I argue, only after high-school education became widespread. Graduates of one-room schools found it difficult to get into high school. Rural districts that were not “making the grade” were unattractive to home and farm buyers, and the threat of reduced property values induced voters to agree to consolidate.

This essay constitutes a chapter of my book, *Making the Grade: The Economic Evolution of American School Districts*, which will be published by the University of Chicago Press later in 2009. The previous chapter described the development of one-room school districts, whose distinctive pedagogy had no age-specific grades. Students were instead arranged by prior knowledge into recitation groups, whose members studied assigned material until it was their turn to “recite” (usually from memory) what they had learned for the teacher. I argue that these institutions and their ungraded pedagogy were actually efficient adaptations to the rural circumstances in which the vast majority of Americans dwelled in the nineteenth century. An ungraded system allowed children to advance their education despite attendance lapses caused by the exigencies of farm life.

But if one-room schools and their districts were efficient, why did they die out? The conventional answer is that the twentieth-century school bus and the road improvements that motor vehicles induced made it possible for rural children to attend a larger school. But why was a larger school desirable, and how did it come about? On this I will argue something more controversial. The demands of age-grading and high school made one-room schools obsolete, and local voters then agreed to consolidation of school districts. Almost all accounts of this transition emphasize that the local districts had to be dragged into consolidation against the will of the locals. I argue the contrary. Consolidation was locally desired by a majority of voters because it plugged them into what was developing as a national system of age-graded schools that led to high school.

In one sense, what I am arguing for is a “demand side” view of the transition. The state school establishment—such as it was—had always been an eager “supplier” of centralized institutions, particularly age-graded schooling and the bureaucratic infrastructure that this system entailed. But age-grading and its accoutrements could not be put in place until there was a widespread shift in the demand for access to high school that was facilitated by age grading. District consolidation required in most cases the consent of the local voters, and they had to be persuaded that consolidated, age-graded schools were desirable.

My thesis is not that educational leaders were unnecessary or irrelevant. Leaders explored the many ways by which education could be standardized within the age-graded format and were ready with plans—not all well conceived—when voters were ready. But they could not proceed until local voters made up their minds that a more systematic education was necessary for their children’s success in life.

The flip side of these questions is why it took so long for many one-room schools to finally consolidate. Here my answer is more tentative. I advance circumstantial evidence that in remote rural areas where child labor was still essential for the family farm, the one-room schools allowed children to proceed with school on a part-time basis. Forcing all of these districts to consolidate into regularly graded schools would have caused many children to drop out altogether. Only after mechanized agriculture entirely displaced labor-intensive farming was it sensible for voters in the most rural areas to give up their one-room district school.

§1 School-District Decline Was Caused by the Extinction of One-Room Schools

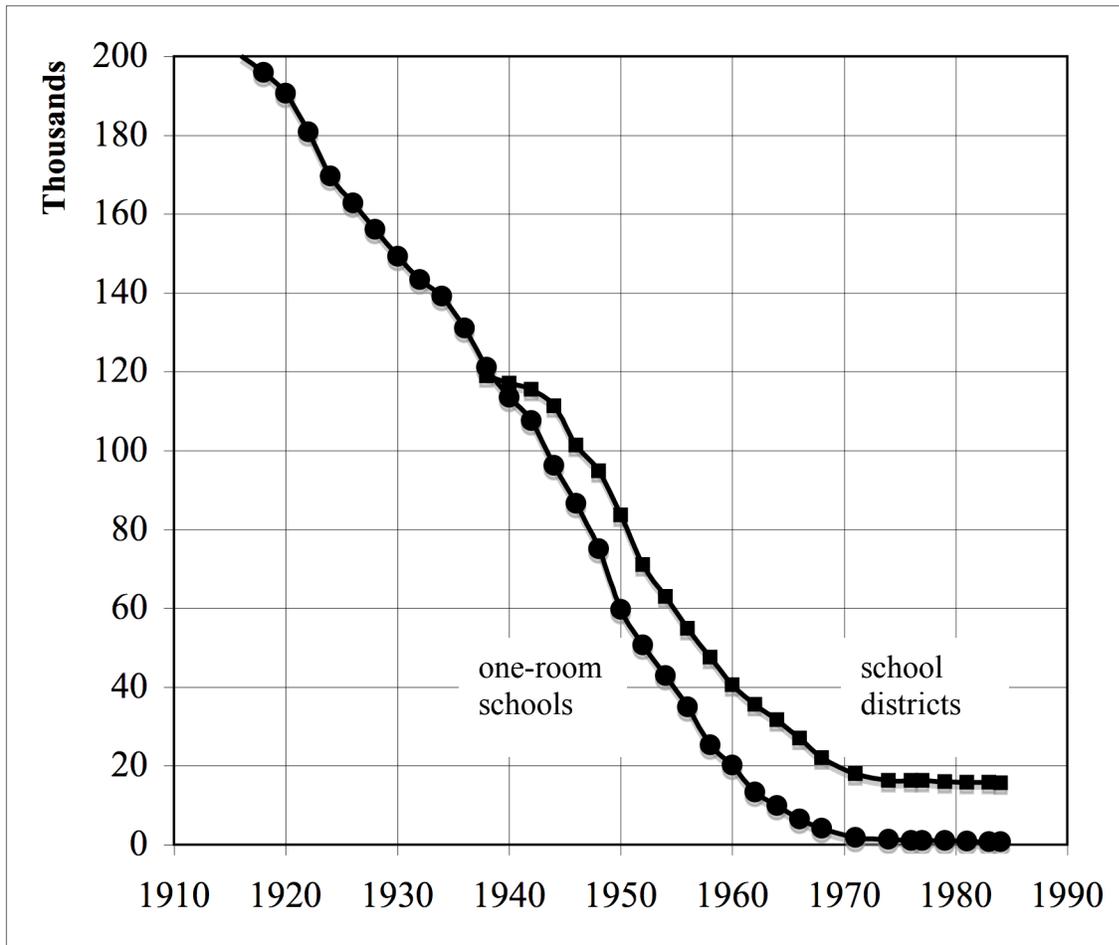
If one-room schools were so efficient for low-density areas, why are they not still around? Figure 1 illustrates the dramatic decline in the number of schools and districts since 1916. They went from over 200,000 early in the century to near zero in 1972. This graph is relevant to three distinct points that will be addressed in this essay.

The first point is that the decline in the total number of school *districts* appears to have been largely accounted for by the decline of rural, one-room schools. School districts moved a decimal point, from over 200,000 to fewer than 20,000, in the space of sixty years. Most one-room schools were the only school in the district, so consolidation of several one-room schools almost always meant consolidation of several districts. The downward trajectories of one-room schools and districts in figure 1 are almost perfectly parallel from 1938, when data on district numbers were first kept continuously, to 1972. Moreover, after 1972, when there were virtually no one-room schools left, the decline in the number of school districts slowed to a trickle. No other unit of American local government followed this trend. The count of counties remained constant over this period, and general-purpose municipalities increased in numbers—mostly by proliferation in the suburbs—but one-room school districts virtually disappeared.

A second point is that the smoothness of the decline in school district numbers in figure 1 masks considerable state-by-state variation. The pattern for individual states seems to have been a punctuated equilibrium, with one-room schools and districts declining only slowly for a decade or so within a single state, then a mass die-off within three or four years of a school-district reorganization effort. For example, Illinois undertook a push to consolidate its 9,459 school districts 1948 and got them down to 3,413 by 1952, while Wisconsin in the same five-year period declined by a much smaller number, going from 6,038 districts in 1948 to 5,463 in 1952. But after that, Wisconsin went on a consolidation binge and had “only” 739 districts in 1964, while Illinois had almost twice that number. (Data are from Hooker and Mueller 1970.) Without some organized campaign, one-room schools and their districts tended to persist. These pushes typically involved financial carrots rather than regulatory commands. As I will show in more detail below, consolidation almost always required a concurring vote of the residents of the districts involved.

Third, the one-room school did not die quickly. If we assume that most one-room schools were also one-room school districts, the one-room school accounted for almost half of all districts (but far fewer than half of the students) up to 1960. Only by 1972 do they become virtually extinct. There is something slightly deceptive about figure 1, however. The one-room schools of the twentieth century were already different from their nineteenth-century counterparts. Around the turn of the century, most one-room schools had at least nominally adopted an age-graded curriculum. The ungraded curriculum and flexible attendance terms that made one-room schools efficient adaptations to their circumstances in the nineteenth century were gradually displaced by city-bred standardization.

Figure 1: One-Room Schools, 1916 to 1984 and School Districts, 1938 to 1984



Source: Nora Gordon (2002)

As I will explain presently, one-room schools struggled with age-graded education. In the period after World War II, this led to consolidations that, for a time, left the one-room schools as essentially dispersed classrooms. School buses would distribute the district’s children to their one-room-school classrooms. For example, first and second grades would be in the Wood School; third and fourth in the Field School; fifth and six in the Mountain School. These were “one-room” *buildings* with a single teacher, but they were not traditional one-room schools because the teacher had only one or two grades to manage. Robert Leight and Alice Rinehart (1999) mention that districts in southeastern Pennsylvania adopted this scheme after World War II, and parts of the district whose schools I attended nearby did this also. I cannot determine the extent of this trend around the nation—the national data do not make the definition of a “one-teacher school” clear—but if it were widespread, it would mean that true one-room schools were becoming extinct more rapidly than the data indicate.

Data from a special study by the United States Bureau of the Census (1960), one of the earliest that listed the number of school districts by county, confirm that district consolidations in the last forty years continued to be almost entirely rural. The 1960 study listed the number of districts for each county in every state, and one can compare the statewide declines to the year 2000 to those of urban counties in the state. Consider the states with the nation's three largest metropolitan areas, New York, Chicago, and Los Angeles. Between 1960 and 2000, the number of districts in New York State declined by 582 (43 percent of its 1960 total), but the suburban counties adjacent to New York City, Westchester and Nassau, had exactly the same number in both years.

Between 1960 and 2000, the number of districts in Illinois declined by 657 (62 percent of its 1960 total), but during this period the number of school districts in counties closest to Chicago—Cook, Dupage, Kane, and Will—was virtually unchanged. California during the same period had a net loss of 666 school districts (39 percent of its 1960 total) but the eight largest urban counties (Los Angeles, Orange, San Diego, San Bernardino, Riverside, Santa Clara, Sacramento, and Alameda), which had two-thirds of the state's population, accounted for only 19 percent of the decline. (This probably overstates the loss in urban areas, since several of California's urban counties are very large in area—San Bernardino is the nation's largest—and contain much rural territory.)

The same pattern exists in other states that experienced considerable district decline since 1960. Indiana went from 930 districts in 1960 to about a third of that number in 2000, but Marion County, which contains Indianapolis and its suburbs, had almost no net change. (The creation in 1970 of "Unigov," a municipal-service body that encompasses Marion County, did not alter school-district boundaries.) Wisconsin went from 2882 districts in 1960 to 459 in 2000, but Milwaukee County (containing the state's largest city and its close-in suburbs) had the same number of districts, 24, in both years. Consolidations in urban and suburban areas account for very little of the overall decline in the total number of districts.

A previous attempt by economists to explain the decline in the number of school districts does not put as much emphasis on the switch from one-room schools to graded schools as I do. Larry Kenny and Amy Schmidt (1994) statistically explain the tail-end of the decline, from 1950 to 1980, as the result of the decline in rural populations, the rise of teacher unions, and increased state funding that displaced local funds. (David Strang [1987] reached a similar conclusion.) Rural population decline figures in my story, too, but there is more to it than that. As I will explain presently, consolidation of rural schools was impelled by voters' demand for age-graded education, which the formerly ungraded one-room schools could not adequately provide. Kenny and Schmidt and most other scholars regard consolidation as a top-down story, but I will show that it was almost entirely consensual. The rise of teacher-unions and the growth of state aid are, in my opinion, results of, not causes of school district consolidations. Teacher unions had almost no political power before the late 1960s (as described in section 14 below), and by then most of the decline in the numbers of school districts had already taken place. State aid was the carrot that made consolidation acceptable to local voters. It was given conditional on consolidation—districts sometimes negotiated for it—and so it was not an independent cause.

§2 Rural Districts Declined along with Local Financing

The decline in school-district numbers was financially facilitated by an increase in state aid to local education. The peak of local funding seems to have been around 1920. Carter Alexander (1921) decried the falling share of state aid (and rise in the local share) for education up to that time. He indicated that in 1890 state aid was 18.4 percent of public school revenue but declined to 13.7 percent in 1918. Alexander expressed the common sentiment among education professionals that the state share should be increased, and indeed it did. As table 1 indicates, the local share of funding—almost all from property taxation—was steadily displaced by an increasing state share over the rest of the twentieth century.

Table 1: Historical Trends in Local, State, and Federal Financing of K-12 Public Schools, 1920-2004.

School year ending	Local percent	State percent	Federal percent
1920	83.2	16.5	0.3
1930	82.7	16.9	0.4
1940	68.0	30.3	1.8
1950	57.3	39.8	2.9
1960	56.5	39.1	4.4
1970	52.1	39.9	8.0
1980	43.4	46.8	9.8
1990	46.8	47.1	6.1
2000	43.2	49.5	7.3
...
2004	43.9	47.0	9.1

Source: U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, Table 32.

The two most rapid declines in local financing—indicated in bold in the second column of table 1—were occasioned by the Great Depression (1930-1940) and by the 1970s property-tax revolts, mainly that of California. Both of these events pushed financing responsibility to the state governments, not the federal government. The federal government’s role grew in the 1960s with “Great Society” grants to facilitate desegregation (Elizabeth Cascio et al. 2008) and after 2000 with the “No Child Left Behind” legislation, but it remains a bit player in education finance.

The increase in state funds in the earlier period was not necessarily caused by state initiatives. Districts would often demand increased aid for facilities and transportation as compensation for their agreement to consolidate. For example, the United States Commissioner of Education (1910, 214) reported that Rhode Island offered \$100 to each graded school for each ungraded school it consolidated with, and Virginia appropriated \$25,000 to “encourage rural graded schools of two, three, and four rooms.” However, it should be noted that the local share

of spending continued to decline after 1970, when one-room schools had become statistically extinct and consolidation slowed to a trickle. Consolidation was facilitated by state aid, but consolidation clearly was not the only reason for the greater fiscal involvement by the state in education funding.

§3 Farm Mechanization and Better Roads Facilitated Consolidation

The more obvious factors that accounted for the decline in one-room schools are demographic trends that are familiar to students of American history. The famous 1890 announcement by the U.S. Census that the American frontier had disappeared roughly coincides with the peak of one-room schools, but that is too pat. One-room schools existed in every rural area in 1890, not just on the western frontier of the United States. The rural population of mostly urban states such as Connecticut and Maryland continued to attend one-room schools well into the twentieth century (Edward Starr 1926; Frank Bachman 1933).

The more important factors associated with one-room school consolidations are the steady trend in urbanization, as shown by table 2, and the concomitant decline in farming. The farm population declined from 39 percent in 1900 to 15 percent in 1950, and it now hovers around one percent. Not only did the number of farms decline, but the average size of farms rose steadily after 1870. Rural birth rates, like those in cities, declined throughout the nineteenth century and most of the twentieth, although rural rates have always been above urban rates. These trends were in turn the result of mechanization of farm work, which made large farms viable and reduced the demand for child labor (Deborah Fitzgerald 2003). For all of these reasons, the number of rural children per square mile declined, so that the number of children within walking distance of a given school shrunk.

Table 2: Percent of U.S. Population in Urban Areas, 1870-1950

Year	Percent urban*	Percent big city**
1870	25.7	12.9
1880	28.2	13.5
1890	35.1	16.9
1900	39.7	21.2
1910	45.7	25.0
1920	51.2	28.9
1930	56.2	31.8
1940	56.5	31.6
1950	59.0	32.3

* “Urban” is a place with 2,500 or more. ** A “big city” has 50,000 or more.

Source: Schnore and Petersen 1958.

As school enrollments declined, a one-room school could not easily cut costs. There was only one teacher to start with, so the only cost-saving possibility was to consolidate with another school nearby. This sometimes did happen, but it meant even longer walks for rural children, and a long walk was the most important deterrent to attendance and regular progression through school (George Reavis 1920). Further consolidation in rural areas could only be accomplished by using nonhuman transport.

Vehicular transportation was limited by the quality of rural roads. By the late nineteenth century, road quality was getting better. Improvements were often specifically motivated by the need to get children to consolidated schools. David Reynolds (1999, 61) mentions that Iowa school districts sometimes maintained roads to facilitate access to schools. Clayton Ellsworth's history of Ohio Valley consolidations insisted that improved roads had an "inseparable connection" with school consolidation (1956, 122). William Link (1992, 236) likewise emphasized the importance of roads for Southern states' consolidation efforts. In rural Tennessee, "school reformers were among the strongest advocates of better roads" (Jeanette Keith 1995, 126).

It is tempting to say that the now-ubiquitous yellow school bus was the catalyst for consolidation, but that would be premature. Books that discussed consolidation of rural schools from the early twentieth century show photographs of horse-drawn "school wagons" (e.g., Focht 1910, 328; Cubberley 1914, 236). Reformers gave advice to district school boards on how to outfit them and what sort of teamster should be hired to drive them. The motorized school bus came into general rural use only after 1920, after consolidation was under way as a national movement. A contemporary source that detailed the establishment of rural consolidated schools in the late 1920s listed the mode of transportation by which rural pupils got to school (Macy Campbell 1927). The great majority were on motorized buses, but horse-drawn wagons were still in occasional use in the Midwest.

§4 Costs and Benefits of Consolidation

Better roads and school wagons made it possible to consolidate rural schools, but why would local voters agree to consolidate into districts large enough to do graded schools? If two adjacent one-room districts lost half of their students over thirty years, they could just join together and run another one-room school at a convenient location. This would preserve the one-room school and allow about half of the students to continue to walk, with only the more distant children being transported a few miles. Schools would remain close to the neighborhood, and local control both by elected school board members and by informal contacts between parents and the teacher would be preserved. Sometimes this did happen, but the more durable type of consolidation was to join several (from four to eight) one-room districts into a district big enough to create an age-graded school. Rural school consolidation was not just about transportation. It represented a decision to adopt multi-classroom, age-graded education.

I will argue presently (section 15 below) that consolidation of rural one-room schools into larger, graded school districts was mostly done with the consent of the residents of the districts. Their representatives in the state legislature were attuned to their concerns, not those of the education establishment. As an overview of what follows, it may be useful to try to reconstruct the general economic calculations that voters in one-room districts might have considered in weighing the costs (the balance of this section) and benefits (in the next section) of voting to consolidate.

On the negative side of consolidation, transportation, political control, and community identity seemed paramount. Transportation was costly in two ways. One was that wagons and buses and teamsters and drivers had to be paid, an expense not necessary in the neighborhood one-room school district to which all children walked. Less obvious is that the time spent on the school wagon or (later) the school bus was a loss of the children's time. Harold Foght (1910, 322), an advocate of consolidation, offered an example of an example of a consolidated district in Kansas in which children spent as much as an hour and a half on the ten-mile trip to school. The school bus was faster, but it also made for larger districts and longer rides for those on the periphery.

The lost hours were an economic cost to the parents as well as the child. Although children in the early twentieth century were less critical in the daily operation of a farm than in earlier times, their labor for chores and seasonal activities like harvesting and planting was still important. Greater distance between school and home reduced the remaining economic contribution that children could make to family farms and household management. However, this cost should not be overstated. One of the advantages of the rural consolidated high school was that students from remote areas no longer had to "board out" in the town that had a high school (Foght 1910, 318). If there was a rural high school, the daily commute to school might be long, but students could still live at home.

The second great negative of the consolidated school was the dilution of political control over school governance. The one-room district school has been celebrated as the most democratic of the public institutions that were widespread in America. Wayne Fuller (1982, chap. 3) emphasized the importance of the one-room school in teaching ordinary people how to govern themselves. The (usually) three school directors were seldom professional educators or professional anything else, for that matter. The majority of voters got exactly what they were willing to pay for, and there was considerable variance in the quality of education.

This variance was not especially harmful in the past. The nineteenth-century one-room school's pedagogy allowed each district to be an island unto itself. State legislation imposed modest floors on length of term, student attendance, teacher credentials, and curriculum, but beyond that it was up to the local board and the voters to whom they answered to decide how good school would be. Joining with other districts would surely dilute the influence of each former district. And professional educators made no secret of their desire to further dilute local influences. The professionals invariably wanted more rigorous statewide standards for length of term, attendance, teacher qualifications, and curricular offerings.

A third disadvantage was loss of community. One-room schools were an important locus of social capital, a place where people of different religions and stations in life could get to know one another (Fuller 1982, 7). The loneliness of rural life was mitigated by the dispersed schools and the teachers who were involved in their communities. I offer contemporary evidence in support of this benefit in section 18 below, but I do not want to oversell it. The consolidated, graded school also provided opportunities for governance and social-capital building. The same road and transportation improvements that enabled children to be transported to a consolidated school also liberated their parents from the walking-distance neighborhood.

In a 1925 essay, the daughter of Laura Ingalls Wilder, Rose Lane, marveled, "Neighborliness goes now on rubber tires and takes in, more swiftly, a wider radius" (quoted in Miller 1998, 169). An enthusiast of graded schooling in North Carolina wrote, "There is no equal to a consolidated school to build up a powerful public spirit in the community; cooperation in public

schools on this plan does almost as much good to the parents as to the children. The consolidated school is the great permanent unifying center of social and intellectual life for the people” (Charles Dabney 1936, 232). Wilbert Anderson (1906, 252) observed that New England townwide consolidation induced residents to pay more attention to town affairs, as opposed to purely neighborhood concerns, and develop what I call “community-specific” social capital (Fischel 2006a).

§5 Age-Grading and High School Were the Main Benefits of Consolidation

The negatives of district consolidation were offset by the promise that taxes would be lower and education would be better in consolidated schools. Many if not most rural school districts were depopulating by the 1920s. In the late nineteenth century, it was not uncommon for a one-room school to have an enrollment of fifty students or more. In that era, it was a good thing that daily attendance fell considerably below enrollment, for there would have been no place to put everyone who enrolled. A teacher-pupil ratio of one to fifty was also highly economical, especially if the teacher was paid to match his or her modest qualifications. But as the population of rural areas declined, such desperate economies were no longer possible. By 1940, Illinois, the state with the most one-room schools (more than 9000), reported that 2211 of them had fewer than seven students (Leon Weaver 1944). More than half of the one-room schools in Kansas had fewer than 9 students in 1942 (National Commission 1948, 184). To the extent that local taxes had to fund these schools, the cost to taxpayers began to rise. If the state provided the funds, local voters might seem insulated, but taxpayers at the state level (or potential recipients of state funds for graded schools and nonschool projects) would rebel.

But tax savings were seldom realized by consolidating schools and restoring the larger student-teacher ratios in an age-graded setting. There was an undeniable economy in classroom size in consolidated schools, but this was offset by a more profound change in education. The continuously variable school year, the curriculum tailored to local preferences, and the locally good-enough teaching staff of the one-room school yielded to the insistent demands for uniformity. This resulted in the age-graded system that we now take for granted as “real school,” to use David Tyack and Larry Cuban’s expression from *Tinkering toward Utopia* (1995). This universal system swamped the local economies of the age-graded classroom by dramatically increasing the *amount* of schooling that students had to have.

Age-grading required regular attendance, and its logical culmination was high school. Ungraded one-room schools were cheaper not just because the teacher and building were less expensive, but because students could take as much or as little as they wanted of what the school had to offer. In contrast, age-graded schools could not count on absences to make a thirty-seat one-room school fit a sixty-child enrollment. A 12-year-old who went to work on the farm for three months could come back to the one-room school later and master his last reader. In the graded school system, he was a dropout and would have to repeat his most recent grade from the beginning.

The age-graded school was, of course, the product of increased demand for education by both rural and urban voters. Voters surely knew that the consolidated schools would mean more expenditure, even if the labor cost per unit of education (teacher-wage per student hour) was lower. The tide of age-graded schooling swept away local resistance to consolidation by making one-room schools obsolete. Just as the word-processing computer has vacuumed up even the most dedicated users of manual typewriters, age-graded schooling created an irresistible impetus to greater school expenditures.

§6 Age-Graded Schools Required Coordination of Curriculum and Schedules

Age-grading is an idea whose origins continue to be debated. Several American education reformers had independently observed or heard of the idea in Prussia (Frederick McClusky 1920a), but many historians still regard age-grading as an idea that cropped up without apparent antecedents in many different states. (Cubberley [1919], whose claims McClusky specifically attacked, was a prominent proponent of the “native genius” of the graded system.) The Prussian origins story perhaps became popular because people who disliked age-grading—and they were numerous—for its factory-like standardization could attribute to it the undemocratic overtones that the name “Prussian” evoked (Patricia Graham 1974, 17). Even if the idea had not first been invented in Prussia, the economic advantages of age-grading were sufficiently powerful that it surely would have been invented in America and other urbanizing nations soon thereafter. The method of private voting that we call “Australian” was indeed imported from Australia around 1880, but no one would argue that our individual ballot-choices would still be made in full view of others had the Aussies not adopted it first.

What is not debated about age-grading is that it was first adopted in cities (Angus, Mirel, and Vinovskis 1988; William Reese 1995). Cities had sufficient population density to enable a large number of children to be assembled in a single school building and divided by age-group into classrooms of homogenous age-groups. It should not be assumed, however, that dividing children by age was the immediate response to the opportunity to create scale economies in formal schooling for urban children. An early experiment, circa 1820 to 1840, was the factory-like monitorial system of Joseph Lancaster. Hundreds of city children would be taught by a single schoolmaster who supervised dozens of young “monitors,” who imparted the instruction (Carl Kaestle 1973). It was not an age-graded system; students were sorted by knowledge, not by age. Something like it survives in large universities, where graduate teaching assistants are supervised by a senior professor, but its popularity in public education died out before the Civil War era.

Cities that first created multi-room schools did not instantly adopt age-grading. Instead, each teacher simply taught as if he or she were in a one-room school. An important element of Horace Mann’s famous battle (circa 1847) with the traditionalist Boston school teachers was his attempt to introduce the age-graded classroom (McClusky 1920b, 139). Mann won that battle (many of his other reforms, such as consolidation of districts within towns, were not adopted until after his death), but even if he had lost, age-grading would soon have become the standard urban method. Its economic and educational advantages—the division of labor in teaching and the more continuous attention to students—were too compelling to be overlooked.

While the idea of age-grading took hold fairly early, the details had to be worked out over a long period of time. It was clear to almost every educator that reading had to be taught first. This involved learning the alphabet and phonetic sounds and then words and sentences, usually in that order. (Mann was actually an opponent of that sequence and advocated a method that taught whole-word recognition rather than phonetics [Hinsdale 1898, 189].) But it was not obvious to everyone how other skills and subjects should be introduced. An early division of students among classrooms was by subject matter (McClusky 1920a, 36). Up to 1855 in Boston, one room in a multi-room building would be for teaching reading, and students would be divided within the room by reading-skill groups, through which they progressed until they had mastered enough material to be sent to another classroom in which writing would be taught (Garrett Rickard 1948). The now-prevalent idea that each early grade should impart some of every skill

was not immediately obvious. The eight years of elementary schooling and four of high school did not become a national norm until the twentieth century (Rickard 1947). Indeed, a few local variations persisted for some years. Salt Lake City's schools took eleven years to high school graduation, adopting the standard twelve only in 1944 (John Moffitt 1946, 194).

These antique issues are relevant for my task because they required coordination between classes within the same school and among other schools. All of the teachers in a multi-grade school had to agree to the curriculum in each grade. The sole teacher in a one-room school could teach skills and subjects in just about any order that she pleased. In most cases, teachers just followed textbook order, but they could select which textbook subjects would be studied. Variety in subject matter did not matter much because each time a new teacher arrived (which was often) or each time a child entered a new school (which also happened frequently), the child's lessons would start from the point where he or she had left off in the textbook. Rural teachers in one-room schools did complain about irregular attendance. Reassigning returning students to recitation groups was not seamless, and long-absent students did forget much of their former lessons. My point is only that irregular attendance did not have nearly as adverse effect on the rest of the students, nor was it as educationally catastrophic for the truants, as it would be in age-graded systems.

Age-graded schooling could tolerate much less variety among classrooms. Within the same school it was essential to have curricula in the upper grades follow from material taught in the immediately preceding grade. A contemporary discussion of these issues was contained in a book by William Wells (1877), the Chicago superintendent of schools who introduced citywide grading in 1856 (Mary Herrick 1971). From its first edition in 1862, Wells's influential book emphasized that standardized age-grading, textbooks, and teacher supervision were essential to facilitate mobility among schools. The idea caught on quickly. Quoting an 1881 editorial in the *Indiana School Journal*, William Reese (1998, 38) wrote that "grading would cut costs, allow a teacher or a pupil to transfer to other schools more easily, 'and find classes corresponding to the ones he left.' It seemed 'essential' that the country school abandon their ungraded plans and promote a more uniform state system."

Grading in turn required parallel standardizations that had been less critical to educational success in the one-room school. Foremost was that attendance be more regular. The chief advantage of a graded classroom was that all students could be taught the same, age-appropriate material. A student who missed two weeks of school was in this setting a far greater liability to the rest of the class. The teacher would have to spend time with the truant to get him up to the level of the rest of the class, and this time subtracted from the overall pace of the class. If time could not be spared, the former truant would have to limp along through material that often involved cumulative knowledge, some part of which he now lacked. In the worst case scenario, the truant would waste most of the rest of the school year and have to repeat the grade again next year, also wasting much of that time.

§7 Rural-to-Urban Migration Pressured Rural Schools

By 1900, most large urban schools had something that looked like modern age-graded systems and a curriculum that allowed students within the same district to move from one school to another and fit in with their classmates. Coordination of graded curricula and schedules among *different* districts, however, would be more difficult to achieve. It was likely that city schools within the same state could do this, as their local superintendents were subject at least nominally to state supervision. Another influence was the professional contacts among urban teachers and

supervisors at the innumerable county and state events. By 1920, most urban schools were following a standard 32 or 36 week schedule that began in September and ended in June.

But why would *rural* schools feel compelled to get with the age-graded program? When the movement of students from one school district to another was mainly among one-room schools, differences in the previous school's curriculum and the student's mastery of it were easily managed. Student mobility did become a problem, however, once rural students moved to urban areas with graded schools. A ten-year-old former farm boy who arrived at a graded urban school complicated his own education and that of other children. He might read at one grade level, do arithmetic at a higher level, but know no more geography than an eight-year old in his new school. He either gets a lot of remedial attention or has to settle into a lower-than-age-group grade, in which he will often be academically bored and socially out of place.

When most of the American population was rural, children whose parents moved most likely went to another rural area. (Joseph Ferrie [1997] shows that in 1850-1870, the vast majority of those who moved fit this category.) Even if families did go to an urban area and sent their children to graded schools, the consequences were mitigated in the nineteenth century by the coarse fabric of most grading. Age-graded schools circa 1870 usually had wide bands of ages contained in two, three, or at most four "grades." Even the numbering of grades was not standard; in many cases, the most elementary grade was given at higher ordinal number than more advanced grades (e.g., Wells 1877, 39). In this setting, the irregularities incurred by a student's attendance in an ungraded, one-room school were less detectable and easier to accommodate.

But consider what happened when a majority of children in the United States attended urban, graded schools, and grading itself became more closely aligned with a single birth year. Now the rural-to-urban migrant had a more serious problem of adjusting to the new school, and age-graded schools found that nonstandard immigrants are more disruptive. By 1915, fully one-third of urban residents were native-born immigrants from rural areas (Glaab and Brown 1967, 136).

I propose that there arrived a "tipping point" at which the proprietors of rural schools and rural voters realized that their ungraded schools were a liability. This tipping point did not arrive simultaneously in all regions of the country, to be sure, but it did arrive long before the last one-room school went out of existence. Consolidation was one rural response to age-grading, but another was to continue with a one-room school but adjust its methods to mimic age-grading.

§8 Problems of Age-Grading in One-Room Schools and the High School Tipping Point

The period during which ungraded schools became obsolete corresponds roughly with the trends in urbanization. As indicated in table 2, between the 1910 and 1920 Census, the number of Americans in rural areas were was surpassed by the number living in "urban places." A Census-designated urban place is a closely settled locale, usually but not necessarily an incorporated municipality, of at least 2500 people. A town this size would be able to assemble enough children to make a multigraded school, especially if nearby rural children could be induced to attend it. At about the same time, one-room schools were attempting to fit themselves into the garb if not the reality of graded education.

One-room schools could not do graded education very well. Teachers with students in each of eight grades simply did not have time to give a separate recitation lesson in their individual grades. A teacher with students in each cohort would have to cover on average six subjects in each grade. That would be 48 separate recitations per five-hour day, or six minutes per lesson (Cuban 1984). In theory, students would be in "study hall" for 7/8ths of the school day. In

reality, teachers usually compromised by grouping many students as they had in the ungraded schools.

Some official sources attempted to deal with these problems by encouraging one-room schools to teach odd-numbered grades in one year and even-numbered grades in the next year. The Vermont Department of Education (1921, 14) promulgated an elaborate system of alternate-year curricula for one-room schools so that “the number of daily recitations is decreased materially.” It is not clear how extensively Vermont’s plan was implemented, but its existence illustrates contemporary awareness of the difficulties of age-graded education in one-room schools. Rural Missouri schools of the same era tried a similar plan (David Burton 2000, 23). Such creative compromises were perhaps the best they could do, but in a world in which students came and went from one school to another, the compromises were sure to show. A student who had completed second grade in a previous school and was ready for third grade had a problem if she came to a school that was teaching “even-numbered” grades that year. She would have to either stretch for fourth grade or repeat second grade.

Age-grading created other complications. The one-room school teacher who had to teach each grade could no longer put off those topics that she actually did not know herself, as she could in an ungraded situation. (“Latin? Miss Cousins will surely cover that in the winter term.”) She had to know the material in all eight grades (as they were eventually to number). One of the advantages that urban teachers now had is that they could specialize in the material for certain grades or certain subjects. There were inspired rural teachers with both the erudition and the energy to teach eight grades well, but by the 1920s, many such energetic and able mentors found that pay and working conditions were more attractive in the growing number of urban and consolidated schools.

The lore about resistance to rural school consolidation is full of quotes from hayseed types who disparaged the need for consolidated schools. No doubt there were such types, but another force was drowning out their complaints. High schools had, like graded schools, originated in larger cities. But up to about 1870, public high schools had a curriculum that mimicked their private competitors, the classical academy. Whether private or public, secondary education was undertaken only by a small minority, and its content reflected elite aspirations to attend college and enter the ministry or another learned profession. Classical languages and history occupied much of the curriculum. Some academies did cater to a middle-class clientele and offered more general studies, and many were partly supported by local taxes in the hope of making their towns more respectable, but there was no systematic streaming from common schools to these proto-secondary schools (Bruce Leslie 2001).

After 1870, the American economy began to demand a large number of workers who were numerate and literate to a degree that went beyond the typical common-school curriculum. This demand grew rapidly after 1900 (Claudia Goldin 2001). Those with the ability to read blueprints, write contracts, do some algebra, keep account books, and draft business letters with that new word-processor, the typewriter, were widely sought and well rewarded. These skills were not typically produced by the classical academies. Public high schools of the latter quarter of the nineteenth century transformed themselves to be able to produce graduates with these skills. In doing so, they put most of the private academies out of business, often taking over their former buildings (Leslie 2001). Elite colleges and universities, led by the example of public land-grant universities, eventually had to modernize their formerly classical curriculum so as to attract applicants from the new high schools. Pressure for modern curricular reform came from the public schools to the colleges, not vice versa (Cubberley 1919, 234).

The role of high schools in my present inquiry is that their growing popularity put pressure on the rural, imperfectly-graded, one-room schools. High schools required a standardized preparation, to which the eight grades of primary school were increasingly attuned. Voters in rural school districts could not ignore this pressure even if their own children had no interest in high school. In 1870, the small town of Franklin, Indiana, established a high school program. Upon establishing its high school, Franklin simultaneously created consolidated, age-graded schools, because “in the one room school no teacher could be expected to conduct classes for all eight grades in six subjects” (Graham 1974, 38). Small towns in Iowa followed a similar path after about 1870 (Reynolds 1999, 64), as did those elsewhere in Indiana (Reese 1998). Local boosters everywhere regarded graded schools as essential to the town’s growth. In a report for the Chicago Columbian Exposition of 1893, Kansas educators proudly pointed out that cities as small as 2000 had graded schools that could stream their students into high school (Kansas State Historical Society 1893). North Carolina towns began adopting graded education in the 1880s in a conscious effort to become centers of the new market economy (James Leloudis 1995, chap. 1).

§9 Property Values Responded to Proximity and Systemic Effects

The economic factor that induced rural voters to support graded schools was the threat of declining property values. We know from many twentieth-century studies of urban areas that declining school quality is bad for home values. The threat of such declines usually motivates voters to support school spending when it appears to be efficiently allocated (Fischel 2001). Rural voters earlier in the century had an even greater incentive to pay attention to factors that affected property values, as it constituted both their business—mainly farming—and residential wealth.

Many historians of public schools would assign a different direction to the role of property values. They would rightly point out that one of the most frequent objections to consolidation that rural voters voiced was that removal of the old district school would reduce their property values (Ellsworth 1956, 124; Link 1986, 146). The New Hampshire Superintendent of Public Instruction (1900, 272) got so tired of hearing it from local school boards that he felt compelled to declare in an official report, “The public school was not established, nor is it demanded, by our state laws for the purpose of enhancing the value of property in the vicinity of the schoolhouse.” It is important, then, to divide the influence of schools on property values into two components, proximity effects and systemic effects.

The size of the rural school district was governed by the distance a child could reasonably be expected to walk. But within the district, some children had to walk farther than others. A homestead located close to the center of the district (the center usually being the location of the school itself) had an advantage over others for prospective buyers. The kids could, after doing their morning chores, walk a few hundred feet to school. This advantage over other homes and farms in the district surely became reflected in the value of the closer property. Indeed, the site for many a rural school had been donated by a local landowner, who also often got his name attached to the informal designation of the district (Fuller 1982, 62). The donor doubtlessly had both an altruistic and a selfish motive for doing so. The selfish advantage was what I would call the proximity effect. It is the differential advantage of being closer to a school. Thus some schoolhouses surely *were* established “for the purpose of enhancing the value of property in the vicinity of the schoolhouse.”

The systemic effect of having a desirable school is different from the proximity effect. The systemic value of a better-than-average school accrues to everyone in the district. Having a

school that attracted buyers to the district as a whole would be capitalized into the value of all properties in the district, not just those close to the school. This is the effect that most modern studies of school districts find to be capitalized into home values. The school district boundary, not proximity to the school itself, is the “systemic” benefit that homebuyers care most about.

It is unlikely that the systemic quality of local schools had much effect on property values in most nineteenth-century one-room districts. Not having any school would be a drawback, of course, but once that relatively low hurdle was overcome and an ungraded one-room school was established, the quality of the school depended almost exclusively on the quality of the instructor. Since one-room school teachers seldom stayed at a single school for more than a year or two, there was almost no way for the district to establish a reputation beyond making the schoolhouse itself a little more pleasant. This may account for why almost all evaluations of rural schools focused exclusively on the physical plant (e.g., Thrun 1933). The teacher who would have made a school district good or bad was usually gone by the time the report was issued.

After age-graded schools became the norm and high-school attendance became common, however, rural schools could be evaluated on a systemic level. A school district that had a consolidated and graded school that channeled its students towards high school or actually provided the high school would have a systemic advantage. Superintendents and principals and much of the teaching staff could stay long enough to establish a reputation. The lack of a consolidated, age-graded system put local property owners at a disadvantage when it came to selling their homes and farms to people with children.

§10 Student Transition from Rural Schools to High School

Children from one-room districts in the twentieth century were usually entitled to attend a nearby high school, but it required adjustments. The one-room school curriculum had to be fitted to the graded curriculum to enable its “eighth grade” graduates to go on to high school. Because this fit was almost always imperfect, urban public high schools usually required that the rural applicants take an entrance examination, whose function was usually served by an eighth-grade “graduation” exam (Reese 1995, 143). (Urban students in graded schools were also subject to exams, but their preparation was more systematic and geared towards the high-school curriculum, and pass rates were correspondingly high.) Many contemporary recollections, such as those collected by Leight and Reinhart (1999, 89), attest that the high school entrance exam was a daunting experience with a high failure rate, the prospect of which surely deterred many rural children from even taking the test. There was no guarantee that the applicant would succeed just because he had passed through the one-room school’s curricular offerings, even if the school was nominally “graded.”

Avis Carlson (1979, 178-181) recalled the eighth-grade graduation examination, which was necessary to enroll in high school, of her one-room school in Kansas in 1907. “The questions on that examination in that primitive, one-room school taught by a young person who never attended a high school, positively daze me,” she wrote. Carlson, who had herself become a distinguished educator, had saved it and offered some examples from the eighty-question test. Among them were “give a brief account of the colleges, printing, and religion in the colonies prior to the American Revolution” and “find the interest on an eight percent note for \$900 running 2 years, 2 months, 6 days” and, this being Kansas, “write 200 words on the evil effects of alcoholic beverages.”

Intellectual challenges were not the only problem. Educators early in the twentieth century were aware of the problems that rural students had in adjusting to high school. I report one study

that addressed this issue with some real data. Calvin O. Davis (1916) was a professor of education administration at the University of Michigan. Several of his previous students had become administrators of small-town high schools in Michigan. Their high schools admitted students who lived within the district confines and also accepted students from rural areas surrounding the town. The rural students had attended one-room schools, while the town students had gone through age-graded elementary schools. Professor Davis enlisted his former university students in a statistical test of the high-school accomplishments of the two groups of students, rural and town-educated.

The statistical test consisted of comparing the course grades of the rural and town-educated students in each school for each of the four years of high school and for various subjects taught in high school. It does not take much reading between the lines to infer that Professor Davis was surprised and perhaps a bit disappointed by the results of this simple exercise. The initial impetus of the test was probably to show that the rural school's children were disadvantaged by their one-room education once they got to high school. Davis's study may have been undertaken as further ammunition for state programs to consolidate rural school districts.

The results showed that in their first year in high school, the rural students on average did indeed do worse than the town-educated students. This was consistent with the official line about the drawbacks of the rural one-room schools. But within a year the students from the one-room schools caught up to their town-educated peers, and by the time they graduated, the hicks from the sticks had on average done better than the others. It sounds almost like a hackneyed Hollywood script, with the poor but hard-working rural kid starting with a handicap but eventually beating out the swells from the city.

Professor Davis's statistical methods consisted only of comparing averages, but his disappointing (to him) conclusion actually led him to a statistically sophisticated insight. The problem with the design of the experiment, he concluded, was sample-selection bias. (He did not use those words, but that's what he meant.) High school attendance was optional for both town and rural children, but, as Davis mentioned, the town children only needed to glide along through eight grades to attend the high school.

The kids from the country who came to high school were a self-selected group of highly motivated students. Having passed the daunting high-school entrance exam, they probably had to find their own transportation to and from school. Some may even have boarded in town during the term. When they got there, they had to overcome the strangeness of a new school and deal with fitting in with a new cohort of students who already knew one another and who had been educated in what everyone regarded as the superior, age-graded classrooms of the town schools. Contemporaries were well aware of country boys' and girls' anxieties about attending school in the big city. (I vividly recall my own panicky reaction to the multi-classroom junior high school in Hellertown, Pennsylvania in 1957 after my six years in a rural township school that had in-room coal stoves and two grades per classroom.)

Professor Davis tried to salvage his Michigan inquiry by focusing on the two subjects, English and history, in which the rural students did not do as well in the end as the town students. His explanations are lame, and he overlooks what I think is the evidence that does show why one-room schools were a drawback. Even after the obvious selection-bias in favor of able and motivated students, the rural ninth-graders did worse in the first year. Adjusting to high school *was* more difficult for them. The prospect of this adjustment must have deterred a number

of rural-school students from continuing their high school education at all, even if they had passed the qualifying test.

It would be anachronistic to conclude that rural children who did not go to high school were “drop outs.” In the 1910-1920 period, high school was hardly the norm. But this was the beginning of the period of rapid growth in high school attendance, and a high school education had a big economic payoff. It was no longer for an elite who wanted to go to college or become teachers. Thus the more convincing evidence from Davis’s study was what he did not emphasize: the deterrent effect of one-room school attendance on high school enrollment.

Other evidence confirms that there was a systemic disadvantage to one-room schools after 1910 or so. A report on Tennessee schools in the 1920s found that only six percent of white students from one-room schools attended high school, compared to 36 percent for the state as a whole (Joe Jenning 1927). It was this systemic disadvantage of one-room schools—the kids could not get into high school as easily—that I believe eventually offset the location and governance advantages of the one-room district and made rural voters agree to consolidate schools. I do not have access to property values that would support this claim, however. My evidence in support of the importance of “demand side” effects is to show that the contrary story about consolidation—that it was imposed from above without regard for local opinion—is not as plausible.

§11 Top-Down Consolidation and Professor Ellwood P. Cubberley

The dominant “supply side” story about rural school consolidation is that it was forced upon unwilling rural districts. Farmers and other rural folk clung to their one-room schools until state legislation forced them to consolidate. Just what the “force” was is seldom specified, but the impetus for consolidation and centralization is always traced to the urgings of the education establishment, whose members include state and county superintendents of schools, faculty in education departments and at normal schools, professional teachers, and sundry official commissions set up by philanthropists such as Rockefeller and Carnegie.

The pre-eminent academic advocate of consolidation was Ellwood P. Cubberley, the most influential historian of education in the early twentieth century. Cubberley saw the origins of public education in much the same way that I do, as a highly decentralized groundswell. Speaking of the early nineteenth-century America, he described with wonder “how completely local the evolution of schools has been with us. Everywhere development has been from the community outward and upward, and not from the State downward” (Cubberley 1919, 155).

Instead of building on the apparent spontaneous order that this evolution might suggest, however, Cubberley regarded it as unfortunate. In his view, it lacked the direction and uniformity necessary for the next phase of development. He admired to the point of triumphalism the development of American public schools in the nineteenth century, but, like many twenty-first century reformers, he wrung his hands about the future. He could not imagine how institutions might further evolve into a coherent system without a firm, visible hand from the top. Much of the balance of his book was to describe how the situation was to be rectified by educational leaders working from “the State downward.”

Indeed, most of Cubberley’s teaching and administrative career at Stanford was devoted to the training of these very educational leaders. The primary purpose of the Stanford University school of education, founded in 1917 with Cubberley as its dean, was not to train teachers. It was to train administrators. Much like the era’s burgeoning schools of business and public administration, Stanford and others like it taught modern methods of administration and imparted

a sense of mission to its crop of would-be leaders. Bringing order to what they regarded as a chaotically decentralized school system was the Grail.

It seems to be something of a rite of passage for modern historians of education to disparage something about Cubberley, who died in 1941. An overview of his scholarship with a slyly disrespectful title is *The Wonderful World of Ellwood Patterson Cubberley*, by Lawrence Cremin (1965). Cubberley's triumphalist view of public education's evolution is a favorite target of advocates of private education, religious education, voucher systems, and charter schools. Professional historians gag on his Manichean view of historical struggle and his neglect of education outside of public schooling (Diane Ravitch 2001). His retrograde views about race, eugenics, immigrants, and popular democracy are held up for scorn, leavened only sometimes with the aside that Cubberley was not much different in those respects from other prominent scholars of his day.

My task here is not to defend Cubberley's views about the virtues of American public education in the nineteenth century. That has been done more than adequately by economists Claudia Goldin and Lawrence Katz (2003). Their essay, "The 'Virtues' of the Past: Education in the First Hundred Years of the New Republic," reads, despite the ironic quotes, rather like what Cubberley might have written had he been better at econometrics. I mention Cubberley because a tenet that both his critics and supporters (though not Goldin and Katz) subscribe to is that school consolidation in the twentieth century came about primarily as a result of the efforts of unelected, undemocratic elites. Parents, taxpayers, and the voting public either had no part in the process or were gulled, shamed, browbeaten, or manipulated into compliance with the consolidation movement. Both critics and admirers of centralization regard it as being the product of, depending on their point of view, arrogant elites or enlightened educators.

David Tyack (1974) detailed the bureaucratization and centralization of urban schools early in the twentieth century. Many schools in larger cities had evolved as ward-schools, whose organization and pedagogy were much like the one-room schools of the countryside. They got money from the city, which was in most cases the *ad hoc* school district, often appearing before any state authorization. However, neighborhood and ward officials (such as the city councilman elected from the ward) selected the teachers and pretty much ran the schools (Graham 1974, 150; Jon Teaford 1984, 77). This was sometimes a devolution from centralized beginnings. New York City's schools were initially under the control of a city-wide Protestant group, but the growing Catholic population demanded and got a more decentralized system in which neighborhoods, or at least ward leaders, could select teachers (Diane Ravitch 1974). While this did not appease the Catholic hierarchy, who went on to establish parochial schools, the locally-controlled ward schools retained the clientele of many Catholic neighborhoods by hiring teachers sympathetic to their faith.

Tyack describes the centralization of control over the urban ward schools in the early twentieth-century. He found that education leaders were hardly democratic in their outlook. Many were contemptuous of democratic processes and the hoi polloi of immigrants. Some of the reformers even proposed to disfranchise the poor in order to do good for them (Tyack 1974, 131). Nothing came of such proposals in the North, which was a good thing. Disfranchisement of blacks in the South was the occasion for creating a vast gulf between schools for whites and blacks (Robert Margo 1990). Although Tyack concedes that the voters had to assent to almost every move, he nonetheless in this work and several others regards administrative centralization and district consolidation as something done despite the wishes of the electorate (Tyack, Lowe, and Hansot 1984; Tyack and James 1986, 54). (I would point out that Tyack's 1974 history

concentrated on the centralization of *management* of city school districts—a reform that was transforming municipal and business governance at the same time—rather than the consolidation of districts, but he extends his “top-down” conclusions to consolidation as well.)

Most other modern commentators also hold that rural consolidations were somehow coercive (e.g., Sher and Rosenfeld 1977; Strang 1987). It is something both the right and left seem to agree about. Edwin G. West (1967), a conservative who was an early supporter of privatization of education, regarded New York State’s attempts to establish rural central school districts in the middle of the nineteenth century as largely the product of bureaucratic machinations at the state level. (As Myer, Tyack, Nagel, and Gordon [1979], point out, however, there were almost no state-level education officials other than the state superintendent anywhere in the nation before 1900.)

On the leftward side of the political spectrum, Michael Katz (1968) examined the disestablishment of high school in Beverly, Massachusetts. Demographic data from an 1860 city referendum in which voters rebelled against the new high school survived to make Beverly famous among quantitative historians. Katz’s revisionist education history was premised on the idea that the high school was, as he titled Part I, “reform by imposition” by capitalist and upper-class interests who wanted schools to produce a skilled but docile workforce. He saw the disestablishment vote as a brief rebellion by the common people. (Katz’s interpretation is contested by Maris Vinovskis [1985], who found that the opposition to high school was more from residents of remote areas of the town who did not want to pay for a school their children could not conveniently attend. My own reaction to Katz’s hypothesis was to wonder what other mischief capitalists were up to when they weren’t setting up free high schools.)

Left and right, triumphalist or revisionist, education historians regard the creation of a standardized system of education with consolidated, age-graded, state certificated schools as having been forced upon a sullen, if not actively unwilling electorate. To be fair, most of the aforementioned sources do mention at some point that local voters had to approve of the change. Beverly residents, for example, voted first to abolish its high school but within a few years voted to reestablish it. But even in these cases, the implication is that the voters were presented with a Hobson’s choice, as the state or interest-groups set the agenda for centralization of schools that local voters could hardly resist.

§12 Standards Evolved to Accommodate Teacher and Student Mobility

My first response to the top-down claim is that the development and acceptance of a standard, bureaucratized system of age-graded schools was not itself invented by a central committee that bent its mind to the task. Most blue-ribbon committees appointed to examine education issues came up with recommendations that were ignored or twisted so badly that the resulting reforms could hardly be said to have evolved from the original recommendations. For example, a Rockefeller-sponsored committee of distinguished educators was empanelled in 1923 to study school districts in Indiana, which seems to have been a magnet for reformers. After much research and deliberation, the committee recommended that school districts be formed entirely along county lines (James H. Madison 1984; Hal Barron 1997, 75). The legislature gratefully accepted the report and then simply ignored it. Indiana’s township system of school districts, which actually was more centralized at the time than other Midwestern states (Fuller 1982, chap. 7), is still the basis for school district organization in the state.

A more successful reform was proposed by another blue ribbon committee, this time named for Andrew Carnegie. The committee examined the offerings of the rapidly growing number of

high schools and noted the difficulty in comparing courses from one school to the other, a problem that was especially vexing for college admissions and teacher compensation. The Carnegie group in 1906 proposed that each course be taught in periods of 50 minutes per day every day for thirty-two weeks. Each course was thus assigned a “unit” that consisted of 180 instruction hours, an hour being in this case 50 minutes plus the 10 minutes to move from classroom to classroom. This pattern came to be known as the “Carnegie unit,” and it was almost universally adopted. A slight variation of it persists to the present day.

The Carnegie unit has been criticized as a kind of straight-jacket for instruction. Tyack and Cuban (1995) conclude that it and other standardized practices formed an inflexible “grammar of schooling” that made progressive experiments such as the Dalton Plan and similar attempts to escape the lockstep of age-grading impossible to implement. There are other schedules by which courses might be taught, such as a month of math, a month of history, a month of English, and it is not clear that each subject deserves or should be limited to the hours of a Carnegie unit. But the advantages of standardization for a system of schools are so pervasive that we tend to overlook such alternatives. Having a uniform Carnegie-unit schedule does allow reasonable comparisons of coverage, if not accomplishment, by students from various schools. It makes it easier to integrate into ongoing courses new students who transfer from another school, and it simplifies the preparation of teachers who change jobs.

The Carnegie unit, like the Australian ballot and the Prussian age-grading system, is one of those logical standardizations that have a proper name. If it were not for this particular commission, some other would soon have come up with something very similar, and it would have straightened out the edges of what was already becoming standard practice. It’s kind of like the story about Frank Cyr, “the father of the yellow school bus.” His 1939 conference on school transportation established “school bus yellow” as a voluntary national standard for paint, and this standard was widely adopted. It succeeded, I believe, because most school buses were already painted yellow or a similarly bright color to alert motorists and pedestrians in the early morning fog. It was a sensible and simple standard. It is unlikely that many districts had to repaint “midnight black” or “dusky gray” buses to conform to the national standard of yellow. (A national standard was also helpful to school bus manufacturers by reducing choices to a Henry Fordian “any color the customer wants as long as it’s yellow.”)

Other standard curricular features seem to have come about without a well-known group having promoted them. American literature is almost universally taught in the eleventh grade in the United States. I can think of no pedagogical reason why Twain, Cather, and Hemingway should be taught to students at age 17, but the standard does serve a useful function. For students who move from one school to another during high school, it saves having to repeat or entirely miss American literature if the student stays with his or her new cohort in the school. In a flexible school, the newcomer who had studied American Lit in tenth grade could in a new school take English literature in eleventh grade, but that can make scheduling problematic and is likely to present the student with a set of classroom peers that may be awkward socially and intellectually. The nearly uniform timing of high school American literature courses has some small benefits and apparently no serious costs.

Another much-debated standard was the frequency of promotion from one grade to the next. Recall that in ungraded, one-room schools, promotion—such as it was—was based on subject mastery. Once the text had been mastered (usually by memorization), the child could move on to the next reader and a higher recitation group. Mastery of some but not other subjects did not require that the student repeat an entire grade and wastefully review material already understood.

Proponents of age-graded schools tried various ways to accommodate different learning rates (Rickard 1947; 1948). An early loser was annual promotion by subject: Go to third grade in math, stay in second for history, go to fourth grade in geography. This did not work, I believe, because it defeated the mobility benefits of age-grading. A more moderate approach was to make promotion decisions at the midpoint of the school year, in January as well as in June. But this did not succeed, either, as transfers of pupils between schools became complicated by fractional accomplishments. By 1900, most larger cities converged on the eight-grade primary system with annual promotions.

As these examples suggest, the standards that were introduced successfully were those that accommodated the mobility of the population. For some, it was useful to have a high-profile commission urging their adoption. This approach made for quicker and more uniform adoptions, but recommendation by a high-profile set of experts was no guarantee of success. Other standards seem to have arisen without much discussion at all. The most prominent one in my mind is the standard school calendar, which I argue was the product of age-graded education and the need to accommodate the mobility of students and teachers (Fischel 2006b). Regardless of their source, though, standardizations imposed a penalty on districts that did not conform to them. Prospective immigrants would be likely to be put off by an unusual schedule or creative curriculum that did not build on their children's previous experiences in school.

§13 State Legislatures Were Creatures of Rural Voting Districts

The belief that states simply forced consolidation on local districts may stem from the legal truism that school districts are “creatures of the state.” The state's authority to regulate schooling is supposedly derived from state constitutional provisions that are specific about their grant of authority. Local school boards are, in this view, little more than state functionaries, having no more authority to go their own way than the state's road builders could determine the routes of highways without the approval of legislatures and executive agencies in the state capital.

The holes in this story are large. Schools appeared in the Northwest Territories before statehood, as Congress contemplated in reserving school sections in newly surveyed townships. The establishment of territorial government was not even a necessary condition. In Wisconsin, Jorgenson (1956, 36-37) found that territorial authority was only sometimes the basis for school district foundation:

More common, of course, were schools maintained cooperatively by the settlers themselves, even before a school district had been formally organized....The most striking fact about early education in Wisconsin is that the movement for free schools was essentially a local one. Tax-supported schools were not created by territorial legislation; it would be much nearer the truth to say that they developed in spite of such legislation.

The importance of state leadership was likewise a myth in Massachusetts: “Like the colonial grammar schools, higher schools in the nineteenth century appeared only when local leaders perceived sufficient demand and practical need for them” (Reese 1995, 6). Nebraska's 1855 constitution commanded the establishment of free schools, but they only appeared when local initiative established them (Olson and Naugh 1997, 98). Even Utah, whose Mormon pioneers came from New York and New England but had no special allegiance to its governance forms (they had been made rather unwelcome back East), originally established self-financing, one-room school districts before statehood (Moffitt 1946, 69).

The state constitutional provisions themselves are long on aspirational language—mostly on the order of “knowledge is good”—and short on specific obligations. Tyack and James (1986,

60) indicate that constitutional provisions assumed the continued existence of local financing and local control that had been established before statehood. Indeed, one of the ironies of this story is that several nineteenth-century state constitutions actually forbade public support for education beyond the “common school.” Cities that wanted to establish high schools in California sometimes resorted to subterfuges, calling the advanced high-school grades mere extensions of the “common schools” rather than separate institutions that were prohibited by state law (Cheney 1888; Tyack, James, and Benavot 1987, 104).

There is no doubt, of course, that local school districts are subservient to state law. This legal status means that courts will seldom intervene to protect districts if the state legislature acts to alter their powers, borders, or their very existence. The same is true for other municipal corporations, although the “creature” theory seems to be applied more stringently to school districts than to municipalities (Roald Campbell et al. 1990). But this merely states a necessary condition for state power to revise school district boundaries and authority. The relevant question is under what conditions would the state legislature actually do this without the consent of the local districts affected.

The answer is, hardly ever. Writing of mid-nineteenth century consolidation proposals, William Reese (1995, 69) observed, “Legislatures, dominated by rural constituencies, pushed reform measures more slowly than educators precisely because they had to answer to the electorate.” Even historians who champion the top-down view of consolidations concede that the legislature almost always got the consent of local school-district voters or their representatives.

The federal government’s authority over schools is said to be limited by the Tenth Amendment, which reserves powers not specifically granted to Congress to the states. Since control over education was not granted to Congress (unlike, say, coining money or establishing post offices), it would seem that the federal role would be very narrow. But the spending power that the Constitution grants to Congress opens an alternative route to federal control. Congress can put regulatory conditions on its disbursement of funds. It can make eligibility for federal funds conditional on some reform, such as desegregation or accommodation of the handicapped. As a result, the chief limitation on the federal role, like that of the state, is political, not constitutional (James Ryan 2004).

Why the disconnect between state supremacy in theory and local self-determination in practice? The answer is the method by which state legislatures are selected. Every state elects both houses of its legislatures (and the unicameral Nebraska legislature) by geographically contiguous electoral districts. No American state has at-large elections for legislatures, as some other nations do. Some states do have multimember districts. In my hometown of Hanover, New Hampshire, I vote for four representatives to the legislature, not just one. But that is simply an accommodation to the tiny districts that would be created by having single-member districts in a legislature composed of more than 400 members. (We joke that in New Hampshire, we don’t really need elections; we could just take turns.)

The geographic basis of state electoral districts was perturbed by the 1960s rulings by the United States Supreme Court that resulted in the “one person, one vote” rule, *Baker v. Carr*, 369 U.S. 186 (1962). Prior to the Court’s reapportionment rulings, some states either enshrined a unit of local government as an electoral district (typically the county in the upper house of the legislature) or had population-based districts that were not reapportioned for many census decades. For example, Chicago was shortchanged by the Illinois legislature’s refusal to reapportion its districts after 1910. Such prior deviations from the Court’s 1960s “one man, one vote” principles usually meant that rural areas got more representation than urban areas (David

and Eisenberg 1961). A lightly populated county would get its representative in the state senate alongside the giant urban county's single senator, as was once the case in California. Or a rural district that was populous in 1910 might still get a representative who in 1960 was elected by a far smaller number of voters than a city whose population had greatly increased between 1910 and 1960. (In actuality, it was the suburbs that were most severely underrepresented by this practice, since that was where most of the urban growth occurred [James Reichley 1970].)

In either case of malapportionment, it was rural areas, where nearly all the one-room school districts were located, that had disproportionate clout in the legislature. Yet they concurred with consolidation legislation in most cases (Tyack, James and Benavot 1987, 121). Any applied theory of the politics of school district consolidation would have to account for this. If there was any geographic bias in state legislation, it surely would have favored rural areas (Allard, Burns, and Gamm 1998).

§14 The “Education Establishment” Lacked Influence

Modern theories of political economy do not simply count votes. Farmers and other rural residents may have wanted the right to veto school consolidation, but their greater numbers do not necessarily mean that they will get what they want. Cohesive and well-funded interest groups can often persuade legislators to assist them at the expense of the more numerous members of the public. The typical example that economists give for this process is, ironically enough, the modern farm lobby. Full-time farmers nowadays represent only about one percent of the population, but state and federal farm legislation almost invariably favors them over the more numerous consumers of their output.

The implication that rural voters were not getting what they wanted from consolidation invariably points to the state education establishment as the interest group that is swaying the legislature. The problem with this story is that this “establishment” had almost no political base. The National Education Association (NEA) did not begin its militant, union-like phase until the 1960s (Myron Lieberman 1997), after one-room schools had become almost extinct. The early NEA, which typically represented urban school administrators, certainly did support consolidation, but its clout in the state legislature was minuscule compared to that of farmers. State superintendents of schools were either appointed by the governor or elected at large by the population of the entire state. County superintendents were likewise answerable to the voters either by direct election or by selection by locally elected school boards. The average number of staff they commanded was not large. None of these groups had an interest-group constituency that could sway legislation.

The widespread belief that rural consolidation was forced on rural voters is partly the product of the bias in historical sources. The most accessible historical documents about education are reports of state superintendents of schools. Horace Mann was the first state superintendent in Massachusetts (his initial title was Secretary to the State Board of Education, but he ran with that), and from his first report on, he urged consolidation of the district schools. Virtually every state superintendent thereafter echoed these sentiments. In 1861, an Illinois superintendent recommended that the state's 10,000 rural districts be consolidated and reduced in number to 2000 (Kaestle 1983, 113). If one reads enough of them, one might conclude that they were the source of the consolidation movement. Moreover, their reports constantly complain of local resistance, so that when that resistance is finally overcome, it would seem logical to conclude that it was because of the Superintendent's influence rather than assent of the local districts.

This conclusion actually does not seem so logical. It seems more logical to infer from their constant complaints about local resistance that state superintendents were *not* getting their way. The aforementioned Illinois superintendent would have had to wait a century before districts in his state numbered fewer than 2000. Mann's campaign to consolidate Massachusetts districts at the town level was a failure. Town districts were established by statewide legislation only in 1883, long after Mann had retired from his post in 1848. Early consolidation legislation in Massachusetts did have a coercive element at one stage, but the next legislature promptly countermanded the rule and returned to a system in which districts could accept or reject a consolidation plan. Only in 1882, after almost all towns had voted to consolidate their districts, was clean-up legislation passed that forced the remaining holdouts into the townwide system. (This account is drawn from Hal Barron [1997], who makes it clear that legislative deference to local voters was the rule in all of the states he examined, which included New York, Ohio, Indiana, and all of New England.)

§15 How Consensual Were District Consolidations?

The previous section indicated that school district consolidation was very much in the hands of rural school districts themselves. They controlled the legislature insofar as it concerned school district structure, and in nearly every instance, local voters had the final say about consolidation. As I proposed in sections 4 and 5, local voters balanced transport costs and dilution of political control against gains from access to fully graded schools and their ticket to high school. Local voters had sound reasons to want to consolidate, and they initiated consolidation or accepted one of the many plans presented to them when they made economic sense to them. A typical example of the feel-your-way, "bottom up" consolidation process was provided by an amateur historian on the web page of the Bethel Public School (near Shawnee, Oklahoma; <bethel.k12.ok.us/history.htm>, March 2008):

In 1917 a petition to form a Union Graded District encompassing Bethel #25 [and three other districts] was submitted to the County Superintendent, H.M. Fowler, but it did not have the required one-third of the registered voters. It is thought that the measure failed because the consolidation would only produce a larger grade school and would not have included a high school. By February 1919, another petition was presented to the County Superintendent calling for an election to combine Bethel District #25, [and one of the previous districts and two *different* districts] into a consolidated district with a high school. The petition "explicitly stated" that the new school would be located in the "geographical center" of the four districts. All voters except those in Valley Grove approved the measure so the other schools now formed Consolidated District 3.

Because my view here is so contrary to most historians' views about consolidation, I will buttress it with evidence that I found in two extensive reviews of district consolidation that examined it nationwide. *Your School District*, by the self-designated National Commission on School District Reorganization (National Commission 1948), was a project conceived by the University of Chicago's Rural Education Project and a committee of the National Education Association. Its various authors give an overview of the consolidation situation in the recent past and then detailed chapters about consolidation in Arkansas, Illinois, Iowa, Kansas, New York, Washington, and West Virginia, and thumbnail sketches of ten other states. The other source, *The Relationship of School District Organization to State Aid Distribution Systems*, by Clifford Hooker and Van Mueller (1970), covers all states and concentrates on the period from World War II to 1970, but it is sketchier in its descriptions. Both volumes are by authors who think consolidation is a fine thing, but, as people who have been in the trenches of consolidation

battles, they are also aware of the nuances of state and local politics and the need to get local voter's consent. (An earlier affirmation of the need to get voter consent is J.F. Able [1923].)

The picture of consolidation that emerges from these sources might be summarized as “the state proposes, the voter disposes.” State education leaders proposed, usually by a commission report, a plan of consolidation for rural districts. It was adopted by the legislature with the proviso that local voters approve it district by district.

§16 County and Township Boundaries Were Rejected in Favor of “Organic” Districts

In many states, the first attempt to rationalize the process of consolidation was to nominate pre-existing political units, such as counties and townships, as the basis for consolidated schools, at least in the rural areas. The ideal was the New England town. New England states had by 1900 largely consolidated their many school districts along township lines. There were still one-room schools in the rural areas, but their budgets and governance were at least nominally in the hands of townwide officials. Even before this time, the sub-town districts usually did not cross town boundaries, though there might be “sending” agreements for students in remote areas to attend schools in another town. New England towns had mostly been established as a political unit from the very beginning of European settlement, and so it was natural for school districts to be organized long those lines.

School district consolidators in the early twentieth century tried to reorganize districts in New York along New England lines. Thus New York in 1917 passed a law that attempted to channel consolidations along town boundaries (National Commission 1948, 113). This generated enormous political dissatisfaction, and within two years the law was repealed. New York towns were not settled by groups with strong common interests, and residents in one part of the town often had little social or political contact with residents of the same town living five miles away, across the river or over the mountain. The same problem arose elsewhere. Illinois attempted to create township high school districts in 1905 without much success, even though the township was still the basis for entitlement to the (modest) revenues from the federal “school section” provided for by the Land Ordinance of 1785 and its successors. Kansas and Iowa tried both the county and the township as a unit for providing high schools in the late nineteenth century, but local voters did not accept the change (National Commission 1948, 113). Wayne Fuller (1982, chap. 7) likewise documents earlier failures to make the township into a functioning school district in the upper Midwest, though he casts local voters' rejections in a more favorable light than the 1948 National Commission did.

Arkansas initially established the township as the school district because of land-grant gifts, but local residents soon opted for smaller districts (National Commission 1948, 114). West Virginia followed a path similar to Arkansas, except that the township-sized “magisterial district” was the basic unit. Again, local school control and financing became fragmented. (West Virginia was the only one of the seven states studied in detail by the National Commission that had adopted the county system, which came about after a statewide tax revolt in the Great Depression decimated local tax bases.) A separate source (Leon Weaver 1944, 20) confirmed the futility of top-down orders. The Illinois state superintendent proposed legislation in 1937 and 1938 to impose consolidation on the state's rural schools but had it derailed both times. Weaver, an ardent proponent of consolidation, ruefully concluded that top-down consolidation was “not within the realm of the politically feasible.”

After failing to get voters to approve county or township districts, most state leaders pursued a more subtle approach, which the 1948 National Commission described and endorsed. State

legislation set up county commissions to propose consolidation zones. County commissions then undertook studies to see where the “organic” or natural community boundaries might be. These commissions were so dedicated to the concept of organic communities that they often allowed proposed districts to cross county lines. The commissions did sociological studies and held public meetings to determine the ideal districts. To improve the chances of public acceptance, local residents without any ties to the state education department were put in charge. Once the commissions came up with a plan for consolidation, they sent it up to the state education department for approval. The reason for this step was to avoid gerrymandering to grab tax-base and otherwise undesirable geographic configurations. After state approval, the proposed consolidation was given to local voters to accept or reject.

This orchestrated bottom-up process had been recognized early in the century. Cubberley (1914) described a Douglas County, Minnesota, plan that was similar to the commissions commended by the 1948 National Commission. The county superintendent and his local commission sought to discover the “natural community boundaries” around which local voters would rally, and the county created about two dozen consolidated schools as a result. Cubberley only grudgingly approved of this process—he gave unqualified approval to the South’s top-down, countywide consolidation process—because it resulted in too many districts of irregular shapes: “The township lines also bore little relationship to the natural community boundaries,” the latter being the districts that residents actually chose in his Minnesota example (Cubberley 1914, 248).

In New Jersey and Pennsylvania, it was the township itself that appears to have been modified to conform to the school district. Townships there were not laid out along the congressional survey lines (they predated the United States), so their borders were more often the “organic communities” around which other states later sought to create consolidated school districts. Pennsylvania in 1834 made townships, cities, and boroughs the primary units for school districts, and, unlike most other states, townships were not further subdivided into subdistricts (Wickersham 1886). Instead, townships themselves apparently split into two or more townships or compact “boroughs” when tastes for schools and other local services were too heterogeneous, as they often were in multi-ethnic Pennsylvania. In New Jersey, the enormous spate of borough formations in the 1890s was said to have been motivated by a desire to separate urban graded districts from rural one-room school districts (John Snyder 1969, 23).

§17 Local Voting Rules and Agenda Control

In most states, the local vote required concurrent majorities of every district in the proposed consolidation. If district A approved by a 100 to 50 vote but district B disapproved by a 30 to 20 vote, the consolidation failed. (Usually more than two districts were involved in a proposed consolidation.) But in other states (or at other times in the same state’s history), the total vote of the combined districts would be all that was necessary, and in the foregoing example, the consolidation would prevail. In this latter scenario, District B could complain that the state had forced consolidation upon it, and collections of these instances doubtlessly contributed to the overall impression that consolidation was “top down.” Purely local autonomy was potentially breached by adopting an at-large count of the votes. But this was rare, and even where such provisions were on the books, they were seldom applied where a district strenuously protested against a proposed consolidation (Link 1986, 143; Barron 1997, 66).

States sometimes adopted a hybrid model that established size or organizational thresholds for giving the districts veto power. A sizeable village that was to be annexed to several small

rural districts might be given the right to reject the consolidation, while the rural districts would have their votes aggregated as a group. Or extremely small districts that had fewer than a dozen pupils enrolled might not have the power to veto a proposed consolidation. These minuscule enrollment numbers were not fanciful. Many one-room schools in Midwestern states in the 1940s and 1950s had fewer than 9 students enrolled.

The National Commission (1948) that wrote *Your School District* was composed of men whose profession was education, and so they naturally assumed that their activity is so important that only an unreasonable set of voters would oppose them. One gets the impression that they were not too keen on voting, and if voting must be done, they would rather it be done at-large and over a large area rather than district-by-district. But they were also men of experience. They had seen their plans beaten up in the state legislatures and their subsequent compromise plans defeated by voters. So they became realistic about voting. Without endorsing it, they noted that “it is accepted almost as a principle that school districts ought not to be abolished or altered without the consent of the citizens living in the areas affected” (p. 45). Even in those few instances (to be discussed below) where legislatures had managed to avoid local votes, the Commission noted that “the desires of the majority of people affected” play a decisive role in reorganizing the schools (p. 45).

Elected county superintendents in the “common school” states (roughly the North outside of New England) were often given the authority to alter school district boundaries, but they did so at their peril and “usually only when authorized to do so by popular vote in the territories affected” (National Commission 1948, 65). Local school boards sometimes could authorize consolidations without a plebiscite, as was the case in Pennsylvania in the 1950s. The vast majority of boards, however, were (and continue to be) popularly elected (Berkman and Plutzer 2005, chap. 5). While the expertise and sophistication of school boards is often disparaged by modern political scientists, infidelity to their constituents is not one of the charges (Berry and Howell 2007). The exceptions to elections were chiefly in the South, where countywide school boards were sometimes appointed in the era of consolidations. County courts would appoint them in Virginia and Tennessee; state legislatures appointed them in North Carolina; hybrids of state elected and appointed officials appointed county boards in South Carolina and New Mexico; and the governor appointed (and still appoints) most county school boards in Maryland (National Commission 1948, 61-62).

The commission-study process that I mentioned above might suggest to political economists that the state authorities were exercising agenda control. Some degree of agenda control, however, was considered desirable even by local voters. Many were said to realize that uncoordinated consolidations would yield undesirable results. Voters in one district would be harmed if two neighboring districts went their separate ways. But it still remains a question as to whether states may have exercised additional agenda control and proposed more consolidation than local voters wanted.

Agenda control was subject to a serious discipline. The voters could say no to a consolidation proposal and fully expect that in a few years another proposal would be presented. The votes on each consolidation were up or down, but it would have been a naive set of voters who would have thought that a “no” vote would mean that consolidation would never happen. Many districts repeatedly rejected consolidation proposals over a period of decades until an acceptable proposal was brought to them.

§18 Explaining the Slow Decline in One-Room Schools

This and the following sections address a question left unexamined so far. I argued that the logic of an age-graded system induced voters to accept consolidation proposals if they conformed to familiar communities. But if this logic was so compelling, why did it take so long for one-room schools and their districts to disappear? One-room schools persisted in considerable numbers into the 1960s. Although only a small fraction of the nation's students attended them, they were a significant presence in rural areas. And the numbers in figure 1 do not count the many rural schools where grades are "doubled up," as they were in the elementary school I attended in Lower Saucon Township, just outside of Bethlehem, Pennsylvania, in the 1950s. The ideal of one classroom and one teacher per grade was long in coming.

Two explanations would seem to compete for the persistence of small schools. One is the obdurate voters story. Because they had the final say, it took a long time for them to do what should have been obvious wisdom to their parents and grandparents. It is difficult to gainsay this story, but it should be clear that it comes mainly from a quarter that is strongly predisposed to consolidation. Most of the histories of school affairs have as their primary sources school administrators. The contrary story that I lay claim to has two sources, a dissertation and a chart.

My primary source is a Columbia Teachers College dissertation by Verne McGuffey (1929). His published study, "Differences in the Activities of Teachers in Rural One-Teacher Schools and of Grade Teachers in Cities," had as its centerpiece the responses to a survey that he undertook. McGuffey managed to get 550 teachers of rural one-room schools and 200 teachers of urban age-graded schools to fill out a 112-item questionnaire. (He was not, as far as I can tell, related to the famous textbook entrepreneur of the previous century, but his name may have improved the response rate.) The questions were designed to indicate differences between rural and urban schools. While his sample did represent a wide geographic area of the nation, his method of selecting respondents was hardly random. The oddest respondents were 178 from rural teachers that county superintendents rated "best" and "worst" in their county in response to the author's inquiries. (Because the best and worst responded in almost equal measure, one assumes McGuffey did not tell them all why they were selected.) But it seems likely that the responses to McGuffey's survey were honest and probably not far from what a more scientific survey would have obtained. His results seem broadly consistent with the reminiscences of rural teachers in Iowa in the 1930s recorded by Jeffrey Kaufmann (2000).

McGuffey's results make it clear that even in the mid-1920s, well after age-graded, multi-room schools had become the norm, there were enormous differences between rural one-room schools and city schools. It was widely known that urban teachers were paid more, but the lower salaries of rural teachers do not tell the whole story. Boarding with the parents of students was not asked about in McGuffey's questionnaire, from which I infer that the custom had died out by the 1920s. Teachers' home accommodations in their one-room districts were nonetheless modest, with 41% living in "a home without modern conveniences" such as indoor plumbing. (No city teachers suffered this privation). Most rural teachers, like their students, walked to school a mile or more, though some either drove a car (19% vs. 6% in cities) or rode a horse or a horse-drawn conveyance (18% vs. 0%). Once at school, the rural division of labor was very limited. Rural teachers "kept all school records" (79% vs. 5% in cities) and "supervised playground activities" (79% vs. 19%). Less pleasantly, rural teachers would usually "do all the janitor work" (59% vs. 0%), "start fires in the morning" (55% vs. 0%), and "actively oversee school toilets" (83% vs. 0%).

Classroom life was also far different for the rural teachers. Graded education was by this time the norm, and rural teachers had to “teach all subjects in eight grades” (73% vs. 0% in cities). Because this meant that most students did not have the teacher’s immediate attention, they had to be able to “keep several groups profitably busy while one is reciting” (82% vs. 13%). But the rural teachers enjoyed a great deal of independence. They would “plan and execute work with little or no supervision” (66% vs. 11%). (An oral history of Vermont teachers confirmed that they most appreciated the independence that one-room schools gave them [Margaret Nelson 1983].) Even though the great majority were females, they were responsive to the interests of the farm community and would “teach agriculture” (65% to 0% in cities [of course]), and “select materials of instruction from the life of a farm community” (61% vs. 11% in cities [surprisingly]).

The difference between rural and urban teachers that was most striking—McGuffey lists it first—was their responsiveness to the local school board and the community at large. Local control was not some abstract matter in rural schools. The rural teachers would regularly “meet with the school board (48% vs. 0% in cities) and “advise school board as to the needs of the school” (78% vs. 0%). School boards were not the only local elements they had to respond to. Rural teachers were far more embedded in their students’ community. More than three quarters (77%) of rural teachers would “establish friendly personal relations with all the patrons of the school,” but fewer than one-quarter (23%) of urban teachers said they did so. Rural teachers “attended church” (69% vs. 25% in cities) and would “conduct entertainments for the community” (59% vs. 0%), most likely spelling bees and holiday pageants. More ambitiously, though less frequently, rural teachers would “assume active leadership in movement for improvement of community health” (33% vs. 0%), as well as for a variety of other nonschool activities such as recreation and “economic improvement of the community” (15% vs. 0%). Some rural teachers may have kept to themselves outside of school hours, but it would not have been easy to do.

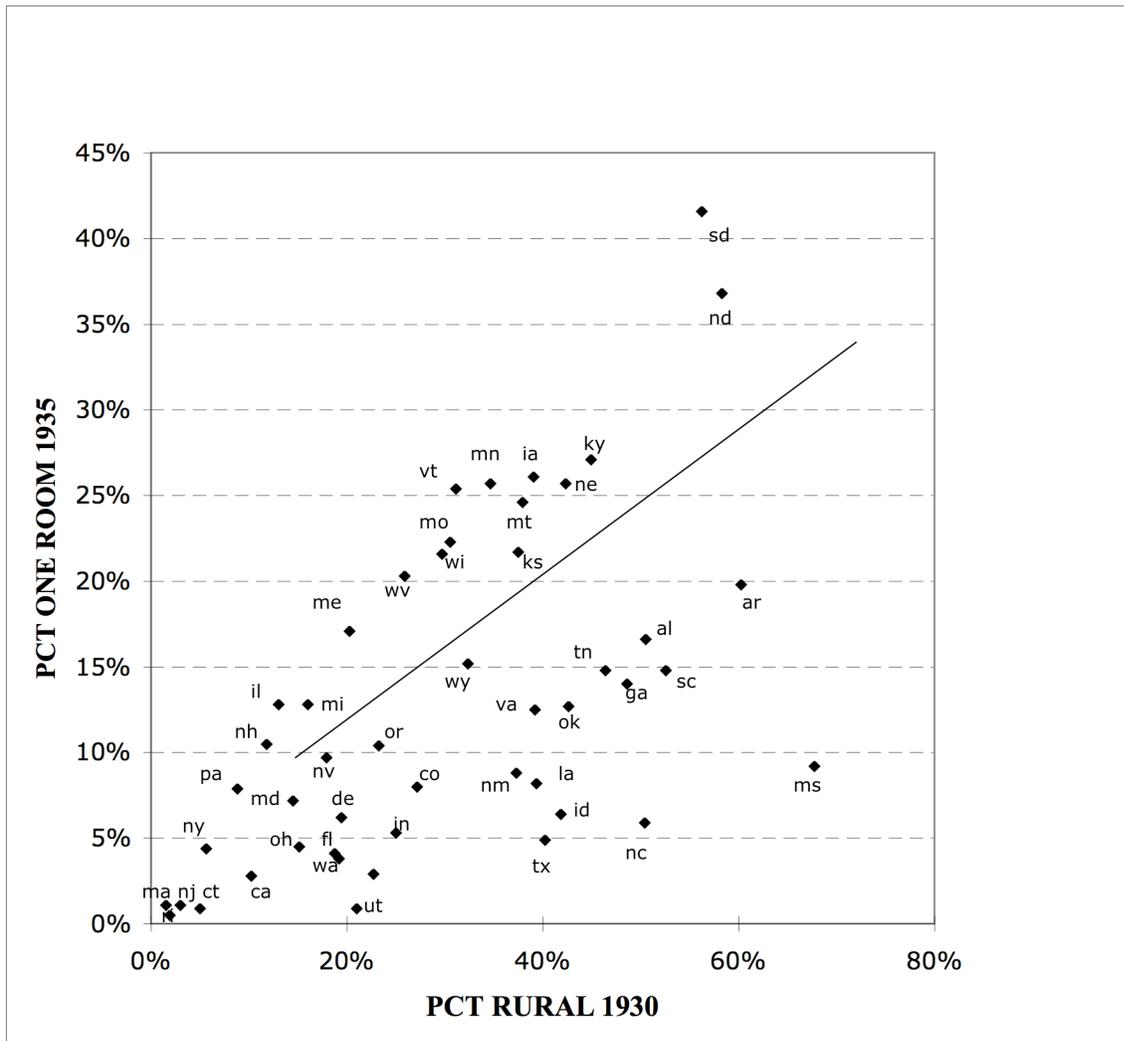
McGuffey’s survey was probably intended to show how hard life was for teachers in the one-room school, but it actually offers a rather strong defense of the institution if one looks at it from the point of view of rural *residents*. Rural parents were getting a multi-purpose institution that both educated their young and provided important community benefits outside of school. It should not be surprising that rural voters would have decided to keep their one-room schools as long as they were viable. One-room schools adapted to the age-graded norm better than I would have expected (but still imperfectly) and continued to serve their unique role in rural communities. It should be emphasized how much rural communities depended on the schools for social capital. They were often the only non-religious (and hence non-divisive) meeting place for a neighborhood (Fuller 1982, 7; Reynolds 1999, 26).

Of course, when one-room school districts were finally consolidated, the rural schools did not instantly become as impersonal as urban schools. McGuffey’s survey deliberately examined extremes. It is likely that the teachers in the four-room schools that were often the first fruits of consolidation were pretty responsive to their communities, too. But the attention was surely less than before. One does not have to look at one-room schools with rose-colored glasses to see that many voters had sound reasons to hold on to them as long as they could.

§19 One-Room Schools Persisted Longest in the North

My second possible insight into the reasons for the persistence of one-room schools is simply a chart. A study by the U.S. Office of Education (Walter Gaumnitz 1940) collected what appear to be a reasonably accurate data on the number of one-room schools for each state for 1935. From the U.S. Census, I obtained the 1930 data for percent of each state's population that was rural. The resulting graph is shown in figure 2 below. Each state is indicated by its postal-code abbreviation on the graph itself.

Figure 2: One-room schools and rural population



source: Gaumnitz (1940); Historical Census Browser of University of Virginia.

Figure 2 shows two distinct facts about one-room schools. The more obvious is that the most urban states had the smallest percentage of their children in one-room schools. When school technology switched from the tutorial-recitation method to the age-graded method, the early

adopters were in cities. In 1935, one-room schools were most prevalent in rural states. (The graph itself exaggerates one-room school attendance nationally, making it look on the order of 15 percent when it was actually only about 5 percent, since the urban states on the lower left—Massachusetts, Rhode Island, New Jersey, Connecticut, New York, Pennsylvania, and California—had much of the population.)

The other fact about one-room schools is more subtle. The 45-degree line on the graph suggests that there are actually two trends, one higher than the other. (The 45-degree line is discontinuous so as not to obscure the several states clustered near the origin, which in any case are not important for this account because they had relatively few one-room schools.) The upper group (above the 45 degree line) consists of almost all the northern and north central states. The lower group consists mostly of arid western states and the South. For example, the arid western states of New Mexico, Idaho, and Wyoming have about the same fraction (35 to 40 percent) of their populations in rural areas as the well-watered, Midwestern states of Iowa, Nebraska, and Minnesota. However, the Midwestern states have a larger fraction of their children attending one-room schools. The lower group also contains most of the South. Only the Southern border states of Kentucky and West Virginia lie above the line.

As demonstrated by Battersby and Fischel (2007), the chief variations in modern school district area across the nation are accounted for by rural population density. Low density in the arid and mountainous West made for large-area school districts. The reason for this is that creation of graded schools in arid areas required a large catchment area to get enough students to make a multi-grade school. Pupils had to be transported a long way in rural Utah to create a multi-room school. By 1915, Utah school districts had become county-based, except for a few pre-existing urban districts (Moffitt 1946, 121). Arid Utah needed a large area to capture enough students to do graded schools and establish regular high schools. As a result, by 1935, Utah had a lower percentage of pupils in one-room schools than any other state.

The other factor that made for large-area school districts was racial segregation. Southern school districts are large because the population density of whites and blacks taken separately was low, on the order of the arid West. When Southern whites sought to do graded schools, they had to reach farther into the countryside to get enough whites (bypassing nearby blacks pupils) to make a graded school. Thus Southern states tend to be below the oblique line in figure 2. The South's population was more rural on average—note that Mississippi and Arkansas were even more rural than the Dakotas—but the South had a lower fraction of students in one-room schools than northern states that had similar rural populations.

My reason for illustrating the differences among states is to advance a reason for the persistence of one-room schools even after age-grading was the norm and high-school attendance was widespread. One-room schools offered more flexibility for children whose labor was important to their families. It was easier to attend school part time in a one-room school than in a fully-graded, multi-room consolidated school. In the consolidated school, students who were absent for many days during the year would usually have to repeat a grade. This was wasteful because of the redundancy of the material, and it was socially humiliating to the student. If this happened too often, the student would be inclined simply to drop out of school.

Dropping out could be done at relatively young ages, since most compulsory attendance laws had exceptions for work on family farms. A 1905 Missouri law, for example, required children to attend school to age fourteen “unless their services were necessary for the support of the family” (Burton 2000, 15). Even if the law made no such exceptions, enforcement was problematic. Tennessee's uncompromising 1912 law had little effect on truancy because “criminalizing the

normal behavior of a large group of Tennessee citizens did not cause immediate changes in that behavior” (Keith 1995, 138). It is not difficult to understand why. Truant officers were understandably wary of enforcing attendance laws in remote farming areas. It was easy to swoop down on children who were working in factories, where there were plenty of witnesses. Enforcement of a locally unpopular law on a lonely farmstead was a lot more problematic.

§20 Graded Schools Created an All-or-Nothing Choice in Education

I submit that rural schools’ ability to adjust grading for ability and intermittent attendance actually made for *more* overall schooling for low-income children. The most detailed source for this contention is, oddly enough, a study of the history of education in a city, New Haven, Connecticut. Steven Lasonde (2005) examined how mid-nineteenth century immigrants, particularly those from Italy, fared in the New Haven school system. Up to about 1850, New Haven’s schools were ungraded one-room schools located in various neighborhoods. Around 1850, the city began to create a graded system with multi-room schools and a standard curriculum. This would ensure that students would get the benefit of a continuous education and progress uniformly from one grade to the next and perhaps on to high school.

The problem with this system was the poorer immigrants. They needed their children to help them earn an income. In the one-room schools of the past, they could enroll their children in school and have them attend when money was flush and there wasn’t much need for the children to work. When times were hard or when a family business required many hands, the children would be kept at home or at their parent’s place of work. After the urgency passed, the children could go back to school again.

In an ungraded school system, this in-and-out attendance was not too troublesome. Children of poorer immigrants might take longer to learn to read, write, and cipher, but they would eventually acquire basic skills by dint of part-time attendance. A fully graded school system, however, could not tolerate part-time attendance. Students who dropped back into school after a month’s absence upset the schedule. Unless they could catch up, they would have to repeat the grade the next year.

Faced with the discrete choice of attending all the time or attending not at all, a great many children from poor families simply never showed up at school. Truant officers patrolled the industrial work places to round up children engaged in the formal work sector. As a result, poor children could not take full-time jobs, so they simply hung around when they were not actually working in the informal sector for their families. For this set of children, age-graded education was a step back for education. Their family circumstances required them to work at least part of the time, and the all-or-nothing choice left them with close to nothing by way of education.

Lasonde (2005, 30) specifically notes that poor children in New Haven were at a disadvantage compared to poor rural children, who could attend ungraded schools on a part-time basis. (Graham [1974, 17] makes the same general point.) The problem of grade repetition was much less significant in one-room schools. A 1910 model curriculum that was intended to get one-room schools in step with their graded counterparts nonetheless advised that in rural schools “children of several different years may often be taught in the same class” (New Hampshire Department of Public Instruction 1910, 14). Even as late as the 1930s, one-room school teachers routinely grouped several grades together. A teacher recalled that back in the 1930s in her one-room school in New Hampshire, “Because of the large number of subjects to be covered in the few hours, it was necessary to group several grades...” (Muriel Kendrick 1976, 31). Students in

rural areas during that period may have been better off by having a choice between one-room schools and graded schools.

The advantage of the one-room school for farmers was that distances to it were not great. By 1935, the standard school year no longer conformed to the needs of agriculture. The summer term was gone, and school began before harvest was done and ended after spring planting. But farm children still had daily chores and still were sometimes needed for special tasks that required multiple hands. If the school could be nearby, more farm chores could be done by children. Reminiscences in Leight and Rinehart (1999, 28) mention children in the 1920s in a rural Pennsylvania district who went home at noon to help milk the cows. Norman Frost (1921) describes a similar accommodation to farm life in Tennessee. Thus even for farmers who were conscientious in sending their children to school, the nearby one-room school had extra value in that it made more family labor available.

§21 Gradualism Helped Children in Poor Families

My argument here is about both education and politics. For some rural children, especially those in poorer areas, the part-time education of the one-room schools made for *more* education than an insistence that they attend a graded school or none at all. Soltow and Steven (1981, 114) attribute the near-parity of urban and rural school attendance in 1860 to the scheduling flexibility of rural schools. Greene and Jacobs (1992) explain the higher attendance of rural students evident in the 1910 Census as a manifestation of the greater flexibility of rural one-room schools. A 1935 survey of Michigan one-room schools found that 23 percent of boys and 16 percent of girls in the later grades were “retarded”—the unsympathetic official term for being old for their grade (Maude Smith et al. 1937). But for the older children, “retardation” may simply have meant that the school allowed them to complete a single grade in two years instead of one by dint of part-time attendance.

Angus, Mirel, and Vinovskis (1988, 226) found that rural graded schools were more relaxed about annual promotions than urban schools, whose administrators were from the beginning of the twentieth-century (and continuing into the twenty-first) criticized for “inefficiency” if students did not progress annually on the age-graded treadmill. By offering the possibility of part-time schooling, the persistence of one-room schools to the middle of the twentieth century may have resulted in a more educated population, not less. As Wayne Fuller (1982, 245) points out, the states of the upper Midwest—Hamlin Garland’s “middle border”—had the highest percentage of the students enrolled in one-room schools and also was the “most literate part of the nation through the years.” It is also possible that the persistence of one-room schools may account for the finding by Christopher Berry and Martin West (2005) that adult wages in 1980 were higher for those who attended school in states with smaller schools during the period 1930 to 1970. In the states with persistent one-room schools—which would make the average school size much smaller—rural children did not have to choose between full-time school and full-time work. (Berry and West also find, however, that larger *districts* were associated with higher wages, though this could be reflecting the effect of urbanization on wages.)

My political argument is that the presence of a high rural population density allowed state legislators to generally defer to local sentiment about school consolidation. In the high-density farm area of Iowa, it was possible for several districts to vote to form a consolidated, fully-age graded school system without having to include every district in the township. If the voters in a particular district felt that the flexibility of a one-room school outweighed the advantages of a graded system, they could decline to vote for it. State legislators had no need to stir up a local

hornets' nest by insisting that all rural districts consolidate. Piecemeal consolidation was still consolidation, and if one district held out for ten years, well, another consolidation opportunity was sure to arise in the next decade.

States with low population densities, however, often required that all of the one-room districts in a particular area consolidate. A single holdout districts could spoil the entire enterprise. I submit that it was this condition that induced the legislators of several of the Western states to forego local consent in many consolidations. In the inventory of school laws compiled by Hooker and Mueller (1970), the states that simply overrode local voting on consolidation matters were disproportionately from the arid West and the South. This was not, I would argue, because New Mexico, Nevada, and Wyoming were less democratic than Wisconsin, Minnesota, and South Dakota. The legislators from the far-west states were as responsive to local concerns as those from the Midwest. Voters in the far-west states must have approved of such legislative action because a majority wanted graded schools and knew that they could not get them if some of the local one-room districts refused to join. What looks like a purely coercive arrangement may have simply been a case of "voluntary coercion," the sort of collective decision that is made whenever free-riders are so pervasive that the public good cannot be provided without collective force.

The South was subject to the same "low" population density as the arid West when the universal practice of racial segregation is brought into the picture. The South was more coercive than the North in the sense of imposing graded schools and thus getting rid of a larger proportion of white one-room schools (Link 1986, 143; Dabney 1936, v. 2: 230). If one just looks at the one-room school percentages and regards the one-rooms as educationally deficient, the South looks like it should have had better education (for whites) than the North.

The transition to age-graded schools was more abrupt in the South and the West, and this was not necessarily a good thing for education. A larger fraction of students who attended schools in the South did get multi-room, graded schools. But because of the costs of segregation, both transportation and administrative costs per pupil were larger in the South (Horace Bond 1934, 231). These expenses meant less money was available for classroom expenditures. Moreover, the faster switch to centralized schools in the South left many whites and blacks in rural areas with the unpleasant choice of very long commuting to school or dropping out altogether. An account of consolidated parish (county) schools in Louisiana noted the long bus rides and disaffection with remote schools for whites (Marion Smith 1938). The transitional rural schools of the North, which offered a relatively flexible, partially age-graded curriculum in local one-room schools were less available in the South. One does not need to be nostalgic for the old one-room school to see that a gradual transition to the uniformly graded system may have improved the educational opportunities for many children torn between school and work by family necessity.

The virtues of gradual transition were also recognized by some reformers of urban school systems, who advocated part-time schooling within the age-graded system. Several Massachusetts factory towns in the 1870s set up separate part-time schools to accommodate the part-time attendance of children who worked in the mills, who otherwise were both disruptive of and alienated by the new, full-time graded schools (Marvin Lazerson 1971, 86). Even James Conant (1959a), whose famous report on American high schools strongly favored larger, more finely-graded schools and districts, conceded that many students and their families would be better off if students could work for part of the time. The proposed work had a vocational role, but it was not strictly vocational schools that Conant had in mind. In urban New York, they were called "continuation schools," and they accommodated age-graded education with the schedules

of working youth (Conant 1959b, 88). The need to supplement family income from part-time work was reason to make some adjustments to the lockstep of grades 1-12.

§22 Conclusion: The Persuasion of Property

The twentieth-century decline in rural population, better roads and motor vehicles, and the demand for high school education all contributed to the transformation of American education norms. As education moved towards age-grading, it became important to coordinate the school experience from one place to another. This coordination came about without much central direction. Education leaders certainly deserve credit for proposing the consolidations and standardizations that a coordinated system required, but local voters almost always had to assent to them.

They assented to them, I believe, because remaining outside the age-graded system was hard on their property values. Families would not move to places that had nonstandard schools. Deborah Fitzgerald (2003, 30) quotes a USDA-conference participant in the 1920s: “The intelligent man will not go out in an isolated district where his children cannot have educational advantages.” Weighing the benefits of a small, one-room district—democratic control, shorter distances, the possibility of part-time schooling—against the costs of remaining outside the system—the less-specialized instruction, the difficulty in accessing high school—almost all voters eventually agreed to the necessary school-district consolidations. The holdouts from this system were mainly farmers in remote places who still required some labor from their children. For them, the benefits of school consolidation still did not offset the adaptability of the one-room school and its closer proximity to their farmsteads. Their reluctance to give up their nearby one-room schools made them look obstructionist to education reformers, but the half-a-loaf education of such schools was better than dropping out entirely at an early age.

Finally, I would point out that the account of school district creation in this essay indicates that the lines that were drawn were anything but arbitrary “accidents of geography.” One-room districts were themselves almost entirely consensual associations, and the one-room districts coalesced into age-graded, multi-room school districts largely by the consent of the governed. Many proposals were rejected, and only when those proposing consolidation identified “organic communities” by on-the-ground research did local voters consent. The school districts we see today are largely produced by the same process, and they deserve more respect than the disdainful “creatures of the state” designation suggests.

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